WEB BASED EDUCATION-MOVES FROM PROMISE TO PRACTICE

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ABSTRACT

Quality of higher education is a very important sector for the growth and development of human resource which can take responsibility for social, economic and scientific development of the Indian country. To achieve the outcome of enhanced quality at all levels of education, Government of India has been focusing its attention on quality and excellence in higher education and teacher education through Web based education and web based training. Today all countries have an integral vision of educational use of ICT. Easy access to internet and to E-resources is the key to enhance the quality of teaching and learning process. Many teacher education programs now include the ICT courses both in technology and its operations. The National Knowledge Commission (NKC) has recently made a few recommendations to address the importance of Web based education and to increase the amount of Open Educational Resources (OER) and Open Access (OA). In India, there are three major initiatives for creating open educational tools and resources. They are (i) NPTEL (ii) Ekalavya;(iii) E-Grid (iv) OSCAR.

Many educators point out the importance of interaction in high quality online education.. For high quality education throughout India there must be some nation wide network, which provides equal quality education to all students, including the student from the rural areas and villages. The solution to this is Web-Based Education. This paper explains the Web based Learning and training with the educational portals. It discusses online teaching and its barriers and the assessments. This paper illustrates the search engines and its easy way of entering methods in WBE. A great teacher inspires first, influences next and third informs. Technology can help teachers to teach more; to reach more; and to touch more but can never totally substitute the teacher.

Keywords: WBE, WBT, Online Education, Search Engines.

INTRODUCTION

As the world moves towards adopting a knowledge currency, India has the opportunity to participate as one of the planet's forerunners in utilizing a demographic comparative advantage and translating that into immense economic success. India is one of the few developing countries that have made revolutionary strides in communication technology. Technological change, which not only permits new activities but makes those new activities superior in many important ways over the previous method of operation, creates long lasting innovations in society. Web-based education is one of those innovations (Franklin and Peat, 2001).

For many learners, 'electronic media assisted learning', 'how', 'what' and 'when' still remains an enigma. Today all countries have an integral vision of educational use of ICT. Countries are making attempts to organize the education system to strengthen the use and development of new technologies at all levels, taking care of the importance of educating people for its inclusion in the so-called '*knowledge society*'.

Web Based Education

Many teacher education programs now include courses both in technology operation and how to use technology for education purposes. With the coming on of distance learning utilizing mobile technologies and the internet understanding of technology or we can say e-learning has become crucial for new teachers in order to keep up with the knowledge and interests of their students in these delivery systems. The emergence of a networked knowledge economy presents both opportunities and challenges for teacher education.

To serve this web based education purpose, the National Knowledge Commission (NKC) has recently made a few

recommendations to address these pressing problems is to increase the amount of Open Educational Resources (OER) and Open Access (OA). OER means, free and open digital publications of high quality materials organized as courses that include lectures, related reading materials, snapshots of discussions, assignments, evaluations, etc. (Lucas and Willinsky, 2009) In India, there are three major initiatives for creating open educational tools and resources. They are (i) NPTEL (National Program on Technology Enhanced Learning) being a joint venture by seven Indian Institutes of Technologies (IIT's), the Indian Institute of Science funded by the Ministry of Human Resource Development (MHRD), Government of India; (ii) Ekalavya project launched by IIT, Bombay;(iii) E-Grid by the Human Resource ministry at IIIT, Kerala and (iv) OSCAR (Open Source Educational Resources Animation Repository).

The rapid development of computer and Internet technologies has dramatically increased the ways of teaching and learning. Among these new approaches, online Web based education has become a promising field.

Many educators point out the importance of interaction in high quality online education. Branon & Essex (2001) found out that virtual office hours helped to enhance learner-instructor interactions in online education. Similarly, as the exponential growth of online courses continue to impact students, it is imperative to gain a better understanding to improve instruction and students' learning (Jiang & Ting, 2000). Today, many are making use of the Internet technology platform for the development of web-based instructional systems (Retalis & Avgeriou, 2002).

We have many schools, enough teachers and facilities for students and teachers. All teachers cannot deliver the same message to all learners. In the presence of great social diversity in India, it is difficult to change the social background of students, parents and their economical conditions. Therefore the only option left for us is to provide uniform or standardize teaching learning resources or methods. For high quality education throughout India there must be some nation wide network, which provides equal quality education to all students, including the student from the rural areas and villages. The solution to this is Web-Based Education.

The World Wide Web (WWW) is used not only to disseminate information but it also provides a great opportunity to extend learning outside space and time boundaries. The Web Based Education has the potential to meet the perceived need for flexible pace, place & face. The web allows education to go to the learner rather than the learner to their education. As per as India is concerned there are many problems that one will face to use Information Technology in School Education like funds, infrastructure etc. Web based education is needed in Indian countries, due to non-availability of best technical experts and good teachers in the rural institutions, and also standardizing learning across institutions and affordable cost. The web based education access to educational resources from anywhere in the globe; and easy, quick to create, update and revise any contents. This education is ability to combine text, graphic, audio and video in the form of digital content and it is used to service a large number of students at a potentially reduced cost. (Vijayakumari & Nachimuthu, 2009)

Students can access the study material or take their classes through video conferencing either by using their desktop, laptops or large screens. This communications can helps to made much easier via remote access systems; large number of students can access the study material at the same time dependent on the network capabilities; traveling expenses can be reduced and it can save time and money for students. Multimedia technology has entirely changed the mode of education and made it simpler to the students and teachers as well because it is an effective form of learning which provides adequate and better outcomes in less time. Internet and web resources have increased significantly the expansion of online teaching and learning which has major impact on teaching and learning (Zhao, 2003).

Web Based Learning

In today's world there is a great demand for learning. The Internet is being marketed as the effective vehicle for teaching and learning. And with the global nature of the Internet, this teaching and learning vehicle can reach the

mass audience. The main objective of web based course environments is to enhance learning experiences and improve learning outcomes. The new medium of web based education presents us with many challenges as well as opportunities. The web allowed us to disseminate information more effectively, and it enhances education, such as multimedia learning applications which focused on specific learning aspects. Lot of Navigator short cuts used in web education to makes faster viz., bookmarks, page navigations, page views, tabbed browsing, sidebar and forms shortcuts. Like Google search engine can speed up their result by using shift keys and combo (combined with alphabet G) keys (Aibek, 2011)

Web Based Training

Drisoll, (2002) researched on Web-based training, e-learning and online learning. He explained the web-based training is, in anywhere, any-time instruction delivered over the Internet to browser-equipped learners. There are two primary models of Web-based instruction: synchronous (instructor-facilitated) and asynchronous (self-directed, self-paced). This instruction can be delivered by a combination of static methods (learning portals, hyperlinked pages, screen cam tutorials, streaming audio/video, and live Web broadcasts) and interactive methods (threaded discussions, chats, and desk-top video conferencing).

Web conferencing is a form of real-time communications RTC in which multiple computer users, all connected to the internet and to see the same screen at all times in their Web browsers. Some Web conferencing systems include features such as texting, VoIP (voice over IP) and full-motion video. Web conferencing allows users to carry on business meetings and seminars, make presentations, conduct demonstrations, and provide online education and offer direct. Web-based learning is associated with learning materials delivered in a Web browser, including when the materials are packaged on CD-ROM or other media.

Up to now, many web based assessments have been developed, helping an instructor to collect formative assessment data, and reflecting the effectiveness of learning and teaching (Yongchul & Wongyu, 2007). By applying usability features into web based assessments for teachers can reduce times for test preparation, administration, scorings, reporting and management. That is, teachers can find what they need and accomplish their goal in a reasonable amount of time and this method is used to manage the process of scoring and easy performance reporting.

Educational Portals for Web-based Education

Various policies have been launched to improve access, equity and enhance quality of education across the country. National Mission on Education through ICT (NME-ICT), launched by Ministry of Human Resource Development in February 2009 is one of them. The Mission has a budget of 4612 crore Rupees. A National Project 'Shodhganga' with INFLIBNET which makes the research, by publishing theses in open access format, based on UGC gazette notification and it can be done for all 525 Indian Universities. Microsoft India has launched an exclusive website for teachers that will help educators in India and 107 other countries develop online connections with each other and share their educational plans. (Irina, 2011)

In India, Education undoubtedly is one of the most important investments in building human capital in a Country and a medium that not only sculpts good literate citizens but also makes a nation technologically innovative, thus paving a path to economic growth. In India, many programmes and schemes such as free and compulsory primary education, 'Education for All' Movement (Sarva Shijsha Abhiyan), National Literacy Mission etc have been launched by government to improve the education system.

In the recent years there has been a groundswell of interest in how ICT has been deployed in the education sector. One of the most vital contributions of ICT in the field of education is easy access to learning resources. With the help of ICT, students can now browse through e-books, results on the Net, online admission counseling, distance education, virtual classroom, online text books, scholarship information online sample examination papers, previous year papers etc., overseas education and educational loan can also have an easy access to resource persons, mentors, experts, researchers, professionals, and peers-all over the world. Some of the latest revolutionary changes and

innovations in the field of education are conducting online common entrance examination, facilitating students to select the institutions and branches of their choice through web based counseling process and so on.

Web portals for Higher Education can help us to create a common gateway to the data and services that the people throughout the particular Institution need to effectively share information and work together on projects. With web portals for Higher Education, we can connect everyone in our learning community to the people, information, and resources they need, when they need them. Web portals for Higher Education can help us to (i) post syllabi, research, and course work online; (ii) provide web-based class registration; (iii) facilitate tuition and financial aid payments and (iv) create student-performance dashboards (v) record and share grades with students electronically; (vi) create online communities for students, faculty, administrators, and alumni to collaborate; (vii) facilitate sharing of best practices among faculty and administrators; (viii) enable students, faculty, administrators, and alumni to access the institution's resources anytime from any connected device; (ix) post lesson plans, coursework, research content, and more to online document libraries; (x) provide web-based class registration, tuition and financial aid payments, and other services; (xi)up-date student performance data to inform instruction and decisions and (xii) share information with the need based board of directors and community members.

Online testing

The teacher may prepare a question bank or an objective type test and place it on the network. The students answer and submit the test. The immediate feedback and scores can be obtained by the student. The evaluation can be done by means of assignments in the form of presentations, documents, and audio visuals, drill and practice, online quiz in various subjects, etc. (Koehler, 2005)

Cyber law is important because it touches almost all aspects of transactions and activities on and concerning the Internet, the World Wide Web and Cyberspace. We can categorize cyber crimes in two ways; viz., (i) The computer as a target:-using a computer to attack other computers. e.g. hacking, virus or worm attacks, DOS attack etc. and (ii) The computer as a weapon:-using a computer to commit real world crimes. e.g. cyber terrorism, IPR violations, credit card frauds, EFT frauds, ATM frauds, pornography etc. Cyber crimes can involve criminal activities that are traditional in nature, such as theft, fraud, forgery, defamation and mischief, all of which are subject to the Indian Penal Code. The abuse of computers has also given birth to a gamut of new age crimes that are addressed by the Information Technology Act, 2000 in India.

Barriers to Web

Bariso (2003) identified barriers to web such as; lack of computers, lack of quality software, lack of time, technical problems, teacher attitudes towards computers, poor funding, lack of teacher confidence, resistance to change, poor administrative support, lack of computer skill, poor fit with the curriculum, lack of incentives, scheduling difficulties, poor training opportunities, and lack of vision as to how to integrate. Many professors and universities will resist web-based education but web-based education will grow. In the process of growth, no doubt many professors and universities will poorly use the technology available to teach online just like many people drive an automobile poorly or use other technologies unwisely. Their problem is not the innovation but their capability, which they refuse to improve. This innovation will grow and it has the strong potential to significantly enhance the delivery of public administration education to humankind.

In an attempt to transform teaching and learning, educators in diverse contexts are exploring innovative ways to use Web 2.0 technologies in teaching and learning. Web 2.0 has been one of the major topics in the field of Instructional Technology. Today's students, many of whom are *so called "digital natives"* (Presnsky, 2003) are making increasing use of Web 2.0 technologies in their daily lives. They also expect their professors to use information technology to communicate their knowledge more effectively (Kvavik & Caruso, 2005). Age was not a factor for browsing. In fact, there was a tendency for more use of ICT for informal learning by older workers, probably because they had more responsibilities in their work, better internet access and more opportunity to organize their own work. (Graham, 2007)

Virtual Reality Applications in WBT

The digital learning provides the learners with a platform to exchange with peers and reflect on their work to foster learner autonomy and learning strategies. Teachers are increasingly relying on tools such as audio and video conferencing, virtual worlds, wikis or blogs for interaction with and amongst their students and for creating collaborative learning environments. Virtual reality (VR) is a technology which allows a user to interact with a computer simulated environment, or an imaginary world. Even today an individual at will can go to Disney World; can visit some of the finest museums of the world; or go to various tourist destinations without moving out of the VR room (Nachimuthu, 2010)

National Policies and Strategies on WBT

The Indian ICT Policy 2009 in School Education aims at preparing youth to participate creatively in the establishment, sustenance and growth of a knowledge society leading to all round socio-economic development of the nation and global competitiveness. The policy envisages three stages of ICT implementations at the school level – ICT literacy and Competency Enhancement, ICT enabled teaching – learning and introduction of ICT related elective subjects at senior Secondary level.

A number of research groups worldwide are working now on adaptive Web-based applications driven by the importance of adaptively in the context of Web-based education (Brusilovsky, 1995)

Currently, two adaptive hypermedia technologies were used for providing adaptive Web-based course material, adaptive presentation, and adaptive navigation support. Adaptive presentation is aimed to adapt the page content to knowledge, goals, and other characteristics of an individual user. It is very important in WWW context where the same "page" has to suit to very different students. Adaptive navigation support (ANS) is aimed to help students to find an "optimal path" through the hyperspace of learning materials viz., direct guidance, annotations, and disabling.

Information and communication technologies are one of the significant contributors of learner-centered education approach. Besides the traditional stationary, computers, data show, portable memories and modems, iPods and tablets, and also with the technological tools like internet have started to be utilized. Especially, with the introduction of the internet to the education life, some educational tools have been replaced by the electronic versions (Tosun & Baris, 2011)

When students err on a problem, computers can explain the way to reach the solution. When students make similar mistakes on a group of problems, computers can recognize a misunderstanding of an underlying concept, explain it, and offer additional practice. Computers offer an opportunity for fine-grained, individualized, personalized coaching (Greg, 2011).

Search Engines

A program that searches documents for specific keywords and returns a list of the documents where the keywords were found is called as 'search engines'. It is a coordinated set of programs which include a crawler that goes to every page or representative pages on every Web site that wants to be searchable and reads it, using hypertext links on each page to discover and read a site's other pages. Some of the search engines are as follows; Alexa Internet, All the Web, Alta Vista, AOL search, Ask Jeeves, Baidu, bing, Blekko, Cuil, Dogpile, DuckDuckGo, Ebay, Excite, Galaxy, GigaBlast, Google, HotBot, Iwon, Joeant, Live Search, Kosmix, Lycos, Mamma, MSN, Netscape, Open Directory, Soso, Torrent Butler, Torrentz, Webcrawler, Wikipedia, Wolfram Alpha, Yahoo, YoMeta, Yandex, Yebol, Yodao and WireDoo.

The Web Pages are categorized into different types, viz., accounting, ask questions, blogs, books, business, e-mail, enterprise, finance, forum, international languages, job, maps, medical, movies, music, multimedia, news, online shopping, open source, people, photos, privacy, search engines, security, social, software downloads and video etc.,

In addition to general Web sites, some of main alternative sources of information are (i) File Transfer Protocol (FTP) Sites; Software Sites etc., if we know how to really use search engines, we can find almost any information we want on the web. In principle, using a Web search engine is very simple... type in a 'keyword' (one that we would expect to

find on the pages of information that we are looking for), hit the search button, and back come the URLs of web pages containing the information we are seeking, usually with a brief description or the first few words on the page.

Tips for using search engines

In practice, we often need to refine our search very carefully otherwise we will be swamped by many thousands of *possible* pages. Fortunately, many search engines allow us to define our search accurately using "*Boolean operators*" and "*wildcard characters*" *and it* vary slightly from one search engine to another (Table 1).

Ministry of Communications and Information Technology

The ministry of communications and information technology published in Gazette of India in 2011, pointed which specifically should concentrate all web publishers (Point No.2–b & 3-b) and which states that Government intermediaries have right to remove any content off the web, and announced the rules and regulations, terms and conditions or user agreement shall inform the users of computer resource not to host, display, upload, modify, publish, transmit, update or share any information that it is found to be grossly harmful, harassing, offensive, insulting, obscene, pornographic, libellous, invasive of another's privacy, hateful, or racially, ethnically objectionable, disparaging, relating or encouraging money laundering or gambling, or otherwise unlawful in any manner whatever. And of removal of access to any information, data or communication link by an intermediary after such information, data or communication link comes to the actual knowledge of a person authorized by the intermediary pursuant to any order or direction as per the provisions of the Act.

Even Google, Yahoo like search engines have opinions about the web education is, they believe that a free and open Internet is essential for the growth of digital economy and safeguarding freedom of expression. If Internet platforms are held liable for third party content, it would lead to self-censorship and reduce the free flow of information. The regulatory framework should ideally help protect Internet platforms and people's abilities to access information.

Keywords	Usage in the Search Engines
AND	It is used in both the prefix and suffix words
NOT	It contains a prefix word but not the suffix word. (here suffix word is little change as prefix word given for search)
OR	Find pages which contain either of the two words
NEAR	Find Pages which only contain those two words close to each other. This facility is only found on a few search engines.
Wild card (" * ")	Find pages with any words beginning with that letter prefix along with words that includes the present continuous tenses.
Small letters	Find pages or content relevant to both capital letter as well as small letters.

Table 1. Utility of Keywords in Search Engines

Recommendations

For access to the network, high bandwidth connections across institutions and a national backbone that provides advanced networking capabilities are major requirements. Thus, there is an urgent need to establish an Indian Research and Education Network or Knowledge Network where each educational and research institute is connected by at least 100 Mbps or 1Gbps and additionally connectivity to global networks is essential. The centers where the broad band connectivity is available should use Triple Play broad band services. These services will help students to get Open Educational Resource materials on demand and they can use their TV sets instead of PC. In short, the Internet is not a panacea for every problem in education. We need to be realistic. But we also must realize that the Internet is a tool that can help us empower every student and elevate each individual to new levels of intellectual capacity and skill. That is the great opportunity of this new technology.

Conclusion

Lot of barriers that must be overcome for online education are financial barriers, resistance to change, bandwidth limitations, access limitations, insufficient search facilities, copyright issues, and barriers to online assessments. One of the drawbacks of the multimedia technology can be predictable if there is a digital divide come between the institutions or countries who can afford to adapt such technologies and who are not much familiar with the use or who do not have much opportunities to integrate them into their current educational systems. Student and teachers both need to accept and face the challenges for the coming future and adapt the new ways of learning to improve the methods of learning and work side by side for better outcome for the whole society.

Technology can be created fast, cheaply and constantly, but it cannot be a remedy for all the ills of the education system. We need to invest both in teachers, and technology to take higher education forward. Technology can and will always supplement, not supplant, a teacher. A great teacher inspires first, influences next and only third, informs. Technology can help teachers teach more, reach more, touch more but can never totally replace the living, loving teacher.

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